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Money for Science

Congress Outdid Administration in R&D Support

While the Reagan Administration insists that it's sweet on science, the recently adjourned Congress turned out to be even sweeter.

With financially gorged defense the main exception, Capitol Hill tended to add money—often substantial amounts—to the Administration's requests for departmental and agency budgets for the conduct of research and development. That was apparent as the Congressional session progressed. But because of varying book-keeping practices and the difficulty of separating some R&D budgets from other federally supported programs, the full picture is only now emerging.

According to a preliminary analysis by the Congress-

Agriculture R&D Distribution Tracked in New GAO Study—Page 3

sional Research Service, the major R&D budgets for fiscal 1984 (which began October 1) are as follows:

Defense: As part of an overall appropriation of \$250 billion for DoD, the Administration sought \$29.9 billion for research, development, testing, and evaluation—an increase of \$6.7 billion over last year's figure. Congress held the increase to a mere \$4.1 billion. The parsimony drive almost clipped the eagerly awaited \$30 million that DoD planned to furnish universities for scientific equipment, but the fund was saved by a last-minute lobbying drive by the Association of American Universities and other of academe's Washington-based representatives. DoD's basic research budget, most of which goes to universities, emerged at the presidential figure, \$850 million, a "real" increase of about 4 percent.

Energy: Having given up on its campaign pledge to dismantle DoE, the Administration remains dedicated to shrinking its budget. R&D spending at the Department totaled \$5.1 billion in the last year of the Carter Administration. Last year, it was down to \$4.6 billion, and this year Mr. Reagan sought to reduce it to \$4.3 billion. Congress, however, has regained its enthusiasm for energy research; it voted for \$4.8 billion, with a good deal of the increase going to such old favorites as solar energy, for which \$174 million was appropriated, about double the Reagan request. An even bigger gainer was fossil-fuel research. Reagan's budget called for \$131 million; Congress voted \$316 million. Conservation research got \$130 million, a bit more than double

the request, and geothermal research was voted \$29 million, more than twice the Administration figure.

National Institutes of Health: The biomedical research lobbies are bubbling over with justifiably deserved self-congratulations at how this one came out. Harping on the theme that NIH would benefit from prolonged frugality, the Administration requested a token increase of about \$60 million in a budget which last year provided \$3.8 billion for NIH's grantees, contractors and inhouse research staff. The Association of American Medical Colleges and the Coalition for Health Funding—a catchall of organizations of federal beneficiaries in the medical area—promptly hit the Congressional corridors. Outcome: \$4.3 billion, which is about \$400 million above the Administration's request.

(Continued on page 2)

In Brief

The Administration's science-policy chiefs have nothing to offer these days but embarrassed expressions of hope on the subject of the five long-running vacancies in presidentially appointed posts just below Director at the National Science Foundation. Some of the posts, including Deputy Director, have been empty for over a year.

All are held on an acting basis by already-on-board NSF staffers temporarily elevated by Director Edward Knapp, who, upon taking office in late 1982, stirred a storm by ousting several officials from the supposedly non-political Foundation. Knapp said he wanted to bring in his "own team," but not one has yet arrived. Why? Knapp and his old friend White House Science Adviser George A. Keyworth won't say, but it's generally thought that willing recruits are scarce and the White House Office of Personnel Management sees no urgency in filling the posts.

Besides genius and sweat, what does it cost to be a member of America's most distinguished scientific society, the National Academy of Sciences? Membership, which is by election only, costs \$50 a year. But, under a new scheme in today's money-minded Academy, members are offered a kind of gamble: Those born before July 1918 can obtain lifetime membership for \$300; after that, it rises in stages, finally to \$500 for those born after July 1930.

...A Reborn EPA Gets a Budget Boost for R&D

(Continued from page 1)

Agriculture: When the various R&D programs in this area are tallied, it appears that the overall net more or less held steady. The Administration requested \$472 million for the Agricultural Research Service, an increase of \$18 million, to which Congress added a bit, for a total of \$474 million. The Cooperative Research Service was budgeted for a cut by the Administration—from \$245 million last year to \$232 million. Congress voted for \$248 million. The Forest Service was similarly budgeted for a small reduction and ended up with a small gain, for a total budget of \$109 million.

National Bureau of Standards: Here, too, the White House wanted to hack—from a budget of \$94 million last year to \$78 million for the current fiscal year—but Congress balked and raised the NBS R&D budget to \$116 million.

NASA: With shuttle bills still coming due and aeronautical research deemed an appropriate federal responsibility by the President's mysteriously selective

free-enterprisers, the White House budget plan called for giving NASA a \$160-million increase, for a total of \$5.7 billion. The Congressional vote brought it up to \$5.8 billion.

Environmental Protection Agency: The Reagan budget for the now-convalescing EPA was formulated when the White House masterplan called for crippling the agency. So, with \$119 million for R&D last year, EPA was budgeted for \$112 million this year. Congress voted for \$143 million.

National Science Foundation: A new-found favorite of the Administration's industrial rejuvenators, NSF was budgeted by the White House for a big chunk of growth—from \$1.060 billion last year to \$1.251 billion this year for support for research and development. Congress rearranged some of the sums, nearly doubling the \$39 million that the Administration asked for education. The additional money comes out of the research account, but even so, NSF's fund for R&D is up by \$180 million over last year.

Industrial Competitiveness Panel Sets Research Study

The Reagan Administration has signed on a flock of industrial high-tech senior executives as part of the study it has organized to counter Democratic exploitation of the industrial-policy issue.

The study is being carried out by the President's Commission on Industrial Competitiveness, announced last June but just now picking up speed and the last of its planned 30 members to meet a pre-election deadline of a final report by September 30.

The Commission is chaired by John Young, President of Hewlett-Packard, which will host a meeting of the members December 20-21 in Palo Alto. Panels have been set up to examine four areas: human resources, capital resources, industrial trade and marketing, and research and development and manufacturing.

That last subject has been assigned to a panel co-chaired by Ian Ross, President of Bell Labs, and Mark Shepherd, President of Texas Instruments. Also on the panel are George A. Keyworth II, the President's Science Adviser, and George Laubach, President of Pfizer, Inc. One or two others are expected to be added

to the panel.

The staff director of the R&D study is Kenneth F. Gordon, who has been detailed from the National Bureau of Standards, where he is Director of the Office of Planning.

Academy Chief on the Road

Frank Press, President of the National Academy of Sciences, has commenced his annual roadshow of regional meetings with NAS members, starting with a session December 5 in Cambridge.

The presidential circuit-riding, with senior Academy officials in the entourage, is a Press innovation designed to establish closer contact between the Academy and its members, whose only other regular gathering is the NAS's annual spring meeting.

The rest of the schedule: Washington, DC, December 19; Pasadena, January 13; Madison, January 20; Houston, January 26; Chicago, February 3; New York, February 9; Stanford, March 1.

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Midwest Gripes Stir GAO Agriculture Study

There's a lot of grist for polemical mills in a new collection of data inspired by midwestern allegations of geographical inequity in the distribution of federal funds for agricultural research.

The numbers, contained in a study prepared by the General Accounting Office (GAO) at the request of Senator Richard G. Lugar (R-Ind.), seem to confirm the complaints of relatively skimpy shares for the 12-state North Central Region.*

But, depending on the criteria employed for assessing fairness, grievances might also be felt in the other three regions on the Department of Agriculture map, particularly on an issue where the North Central states don't show up too well—the ratio of federal-state funds for support of agricultural research.

Lugar, who chairs the Agriculture Committee's Sub-

by Harlow J. Hodgson, Assistant to the Director of the Wisconsin Agricultural Experiment Station.

The Hodgson study, which stirred a good deal of argument in a research community that tends to shun open political controversy, reported that the North Central region, with 44 percent of the nation's farm cash receipts and 58 percent of cropland acres, received only 22 percent of funds dispersed by the Agricultural Research Service. ARS is only one of several mechanisms for distributing federal funds for agricultural research. But ARS is the biggest—\$460 million of \$680 million in federal funds last year—and, as the GAO report points out, its funds "are distributed on the basis of research priorities without regard to geographic distribution."

GAO looked not only at spending patterns of the Agricultural Research Service but also at the \$220 million in so-called Hatch funds allocated through formulas and competitive grants. Covering fiscal years 1978-82, the GAO study reports the following in terms of total average annual receipts of federal funds for agricultural research:

Funding type	North Central Region	North- eastern Region	Southern Region	Western Region	Total
(000 omitted)					
Hatch funds	\$ 34,833	\$ 20,736	\$ 41,034	\$ 19,691	\$ 116,294
Competitive grants	5,483	3,677	2,490	3,417	15,067
Special grants	4,621	2,451	4,338	4,154	15,564
Animal health	1,638	514	1,309	1,005	4,466
1890 school funding	1,128	987	14,778	0	16,893
Subtotal	47,703	28,365	63,949	28,267	168,284
ARS funding	70,187	94,297	102,122	64,025	330,631
Subtotal	117,890	122,662	166,071	92,292	498,915
State funds (1981)*	125,875	52,274	194,423	128,581	501,153
Total	\$243,765	\$174,936	\$360,494	\$220,873	\$1,000,068

*Complete data were only available for 1981.

committee on Agricultural Research and Legislation, requested the study after the North Central Experiment Station Directors last year adopted a resolution that said their laboratories were being shortchanged in the budget. Their allegations were based on a study in 1982

*AGRICULTURAL REGIONS

Northeastern: Connecticut, District of Columbia, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, and West Virginia.

North Central: Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin.

Southern: Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Oklahoma, Puerto Rico, South Carolina, Tennessee, Texas, Virginia, and the Virgin Islands.

Western: Alaska, Arizona, California, Colorado, Guam, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Region	Yearly Average	Percent
Southern	\$166,071,000	33
Northeastern	122,662,000	25
North Central	117,890,000	24
Western	92,292,000	18
Total	\$498,915,000	100

While the principal complainants, the North Central States, trail in the above-listing, they also lag, by some measure, in the provision of their own funds for agricultural R&D, as is shown in the following:

Region	Non-Federal funds per acre in farms	Non-Federal funds per \$1000 value of farm products	Non-Federal funds per dollar of Federal funds
Northeastern	\$1.77	\$6.50	\$1.55
North Central	.41	2.44	2.35
Southern	.59	4.76	2.25
Western	.36	4.09	2.24
US	.49	3.69	2.16

On the other hand, the GAO study points out, in terms of R&D funds per \$1000 of "value added" furnished the regions by the Agricultural Research Service and the State Agricultural Extension Service, the figures were as follows:

Region	Federal	Non-Federal	Total
North Central	\$ 2.65	\$3.23	\$ 5.88
Western	6.44	6.97	\$13.41
Southern	6.41	7.49	13.90
Northeastern	21.56	9.10	30.66
National Total	5.49	5.38	10.87

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NIH Response to AIDS Hit in House Report

There's probably merit to the widely held view that Rep. Ted Weiss was playing to the grandstands in his New York City constituency when he chaired hearings last August (SGR Vol. XIII, No. 13) on Acquired Immunodeficiency Syndrome (AIDS). But, whatever the motive, Weiss clearly illuminated the poky movements of NIH in responding to what senior federal health officials now regularly refer to as the government's top health-research priority. Following are excerpts from the recently issued report of Weiss's subcommittee:

NCI (National Cancer Institute) began developing an RFA (Request for Applications) on AIDS shortly after its September 1981 Conference at which investigators agreed that a wide range of research was needed on the new, life-threatening syndrome. It then took NCI approximately ten months to issue this request for AIDS research proposals.

Consequently, on August 13, 1982, the first RFA on AIDS was issued, a full year after the disease was reported by CDC (Centers for Disease Control). NCI Director DeVita expressed the critical need for this RFA:

A major public health problem has recently been identified and there is virtually no specifically supported on-going research. We believe this is necessary to ensure the most expeditious resolution of this problem.

The first grants resulting from this RFA were awarded in April of 1983, two years after reports of the outbreak. NCI documents indicate that many NCI officials expected the peer review process to be completed sooner than it was. For example, the special study section, responsible for the scientific peer review of grant ap-

plications, did not meet until mid-December 1982, two months after the application deadline. Site visits to review the larger grant applications were then not completed until the middle of March 1983.

The actual awarding of funds for the majority of approved grants took an additional five months, from April to August of 1983, largely because of the Administration's delay in requesting additional funding for the approved AIDS research proposals. As a result, most researchers were delayed almost one full year after they had developed and submitted acceptable research proposals.

Dr. Frederick Siegal, Chief of the Division of Clinical Immunology at the Mount Sinai School of Medicine in New York, was one of the first researchers to begin studying the new disorder and was awarded an NCI grant in May of 1983. In testimony before the subcommittee, he said that in early 1982, the funds available in New York for research were "insufficient to deal with the citywide public health emergency. There was no existing mechanism to quickly obtain support for a major effort to work out the epidemiology, etiology, immunology, and therapy of AIDS." While Dr. Siegal agreed that NIH's careful peer review is essential, he also stated that, "A delay of one to two years between the perception of a major problem and its initial earmarked funding is unconscionably long."

HHS (Department of Health and Human Services) maintains that it did try to respond to the growing demands for AIDS research funds during this lengthy RFA review process. NCI, for example, awarded ten administrative supplements for AIDS research, totaling \$165,195 in September 1982. Administrative sup-

(Continued on page 5)

AGRICULTURE *(Continued from page 3)*

Having assembled this information, where does the GAO come out? Cautiously. In a section headed "Summary Observations," the GAO states:

"Funds for agricultural research are distributed in various ways. Data show that regional distribution of agricultural research funds varies widely depending on the program. Although the largest percentage of ARS funds is spent in the Southern Region and the largest amount of Hatch Funds is allocated to the Southern Region, the North Central Region has received the largest amount of special and competitive funds. Funding by the States also varies widely; Southern States support agricultural research with State funds to a greater degree than other regions.

"Funds might shift among regions if certain programs received more or less emphasis. For example," the GAO concluded, "on the basis of past trends, an ad-

ditional percentage of the funding would be received by the North Central Region if funding of the Competitive Grants program increased relative to other programs."

Under the heading of "Agency Comments"—for which the GAO routinely makes provision in its reports—the Department of Agriculture's research managers, even more cautious than the GAO, permitted themselves to be represented by a paraphrase. In the words of the GAO:

"USDA officials said that our report accurately reflects the agricultural research funding situation."

The GAO report, *Federal Agricultural Research Funding: Issues and Concerns* (38 pages), is available from the US General Accounting Office, Document Handling and Information Services Facility, PO Box 60145, Gaithersburg, Md. 20760; tel. 202/275-6241. Specify GAO/RCED-84-20; free for the first five copies; additional copies \$1 each.

...Took Two Years to Award Research Funds

(Continued from page 4)

plements are small awards that can be distributed quickly to current NIH grantees to support additional research initiatives. However, even this action was delayed for a year after the September 1981 AIDS conference. The awards were very small, ranging from \$15,000 to \$25,000. While considering a similar action for NIAID, (National Institute of Allergy and Infectious Diseases), one official expressed concern that awards of this size are "a drop in the bucket to a productive and reputable investigator with a sizeable ongoing research project."

Funding Set for Next March

The second RFA on AIDS to identify the etiologic agent was not issued until May of 1983. Actual funding of these grants will not occur until March of 1984. When Mr. Weiss asked why this RFA was delayed a year and a half after many PHS scientists believed that AIDS was likely caused by a transmissible agent Assistant Secretary Brandt replied, "Because up until that time, we had been getting requests spontaneously..." He explained that requests for applications are only issued when "it is felt that the investigator-initiated grant proposals are not covering the entire water front that we feel is important."

The subcommittee investigation indicates, however, that prior to the publication of the May 1983 RFA to identify the etiologic agent, only three investigator initiated research grants on AIDS had been funded by NCI, one in fiscal year 1982 and two in fiscal year 1983. This does not lend credence to Dr. Brandt's statement at the hearings that, as far as the extramural program was involved, the "work was being done." It also fails to explain why it took so long for NIH to issue the RFA on etiology and to "clearly signal the scientific community" that it was "most interested in seeing more applications for work in this area."

Research requests in two other areas crucial to unraveling the AIDS mystery were also late in being issued. As discussed earlier, in September of 1981, NIH scientists concluded that large epidemiological studies of homosexual men would be necessary to define risk factors for AIDS. A request for contracts for this type of research was not issued by NIAID until May of 1983. Grants were awarded in September 1982, two years after the need had been recognized.

In August 1983, the National Heart, Lung, and Blood Institute (NHLBI) issued a request for proposals to identify and validate methods to identify persons who have AIDS either diagnosed or asymptomatic. In light of the possibility that AIDS may be transmissible through blood and blood products, this research is

New NIH Study Underway

A full complement of the usual experts has been assembled for the study that the National Institutes of Health instigated last year to block disease-lobby drives for adding institutes to the Bethesda complex. And none too soon, it appears, since just prior to adjournment, the House voted to establish separate headquarters for arthritis (which was expected) and nursing (which was not). The Senate, however, is yet to be heard from.

Meanwhile, the \$792,000 study, which NIH contracted to the Institute of Medicine—the health-policy subsidiary of the National Academy of Sciences—is moving along. Chairing the overall steering committee for the study is James D. Ebert, President of the Carnegie Institution of Washington. Panels and their chairmen are:

Historical Issues: Maclyn McCarty, Professor emeritus, Rockefeller University;

Current Organizational Structure: Samuel O. Thier, Chairman of Medicine, Yale;

Alternatives to Current Structure: Steven Beering, President, Purdue.

Michael Stoto, on the Institute of Medicine Staff, is the Study Director.

Next October is the date set for delivery of a final report.

urgent, but grants will not be funded until April 1984. NHLBI and other PHS agencies have been involved in research aimed at identifying a marker for AIDS in blood, although funding for a complementary extramural effort will not reach even minimally adequate levels for another six months.

Similarly, a NHLBI Request for Proposals (RFP) for a prospective study on the association of blood product use with immune function changes was not issued until October of 1983 and contracts will not be funded until September 1984. Although researchers at NHLBI believe that "additional information about the epidemiology of this syndrome is urgently required, particularly as it relates to the infusion of blood and blood products," this important work will be delayed at least until the fall of next year.

(From *The Federal Response to AIDS*, 36 pages, no charge, available from Intergovernmental Relations and Human Resources Subcommittee, Government Operations Committee, 2157 Rayburn House Office Building, Washington, DC 20515; tel. 202/225-2548. The text of the August hearings, under the same title and also free, is expected to be available in early January.)

DOE-University Relations Dismays Panel

The US Department of Energy is not the sophisticated and generous money-giver that universities would like it to be.

That's an old refrain from academe—which grossed \$315 million in direct DOE payments last year, a sum that put the Department in fourth place, behind NIH, NSF, and Defense, as a source of support for university-based science. And the same theme has been sounded again in a much-worked over and still-unsettled draft report of a study by the University Programs Panel of DOE's senior science counselors, the Energy Research Advisory Board.

Titled "An Assessment of the Relationship Between the Department of Energy and Universities and Colleges," the report was submitted last August, and has since undergone various revisions reflecting DOE's sensitivity to being accused of cloddishness by academic in-grates.

The draft favorably cites the allegedly superior performance of NSF, NASA, Defense and NIH in providing funds for university-based research, and, oblivious of the din surrounding their philanthropy, goes on to state that "These agencies are seen to have an agency-wide and uniform appreciation of the roles and importance of universities in their respective programs and the ability to communicate their research interests and priorities in a timely fashion.

"Why is the situation in DOE different?" asks the panel of 16, chaired by Ivan L. Bennett, Professor of Medicine at NYU Medical Center. The answer is in "the lack of a coherent and clearly articulated policy regarding the appropriate role of university scientists and engineers in DOE programs."

The panel points out that DOE's ineptitude in dealing with academe cannot be blamed on lack of sage advice, for, as it reminds the current management, the proper path was outlined by a report prepared by the White House Science Office during the Carter Administration.

That report was presided over by Solomon Buchsbaum, of Bell Labs, who is currently Chairman of the White House Science Council. As with many of its predecessors over the decades, and others that followed, it called for more money and policy consistency, less red tape, and the other customary prescriptions for simplifying academe's quest for raising the take and minimizing the strings.

"These recommendations," says the report prepared by Chairman Bennett's panel, "despite some efforts to do so, were not implemented effectively; had they been adopted, the present report would probably have been unnecessary.

"Instead," the panel report continues, "diversification continued in the Department's university

Besides Chairman Bennett, members of the DOE University Programs Panel that wrote the report on DOE—University relations were:

Betsy Ancker-Johnson, Vice President, General Motors
D. Allan Bromley, Professor of Physics, Yale
George Bugliarello, President, Polytechnic Institute of New York
William D. Carey, Executive Officer, AAAS
Walter E. Massey, Director, Argonne Laboratory
David Pimentel, Professor, Cornell
Louis H. Roddis Jr., Consulting Engineer
Cleveland Dennard, President, Atlanta University
William T. Golden, financier, NY
Norman Hackerman, President, Rice University
Charles Hitch, President emeritus, UC California
Henry R. Linden, President, Gas Research Inst.
Roland W. Schmitt, Senior Vice President, General Electric
Clifford V. Smith, Asst. to Chancellor, Portland State Univ.
John Toll, President, University of Maryland

procurement-related processes: some programs expanded the use of grants while others assigned lead mission responsibilities to national laboratories, which in turn subcontracted with universities for portions of these missions. There has also been a continuing delegation of responsibility for negotiating, contracting, and monitoring university awards to individual DOE Operations Offices without regard for preserving the original single point of administrative interaction for each university."

The inventory of DOE's sins against prudent scientific management is long, and includes:

- An uncharted decentralization "that has often led to confusion on the part of the university scientists and administrators on just where formal proposals should be submitted."

- A "laborious and lengthy DOE process for seeking and receiving approval to purchase equipment, to reallocate project budgets, or to extend or renew DOE awards. This has led in a number of cases," the panel reported, "to universities having to absorb, on an internal basis, the necessary costs to continue research programs until such time as the DOE award is executed."

In its conclusion, the Bennett panel merely asked the Department to pay attention to the numerous complaints it had collected from universities; also, to note that "universities are not monolithic institutions" and that "Unlike other organizations universities are dominated by the need to provide an environment in which free intellectual inquiry and the transmission of knowledge can take place."

What the panel did not take up was a simple and straightforward remedy for dealing with the predictably inept academic relations of a federal agency preoc-

(Continued on page 7)

In Print: Science Reviews, Polygraph, Etc.

Research Briefings, analyses of promising research areas, prepared by the National Academy of Sciences at the request of the White House Science Office, presumably for assisting with the budgetmaking process. The second of what may become an annual production, the new crop of briefings, and the respective chairmen of the study groups, are:

Selected Opportunities in Chemistry, George C. Pimentel, UC Berkeley

Cognitive Science and Artificial Intelligence, William K. Estes, Harvard, and Allen Newell, Carnegie-Mellon
Immunology, Hugh O'Neill McDevitt, Stanford
Solid Earth Sciences, Charles L. Drake, Dartmouth, and Don L. Anderson, Caltech

Computers in Design and Manufacturing, Michael Wozny, Rensselaer Polytechnic

A printing of 1500 copies of last year's briefings was quickly consumed by domestic and foreign requests. So, the Academy plans to print 4700 of the new edition, for sale and giveaways to NAS members and selected others.

(Briefings on single subjects are available for \$3.50 each; the whole batch goes for \$8.50. Address: Academy Press, 2101 Constitution Ave. Nw., Washington, DC 20418).

Scientific Validity of Polygraph Testing, A Research Review and Evaluation, report by the Congressional Office of Technology Assessment, based on what's claimed to be the most comprehensive examination of scientific study of the lie detector; concludes that while intelligence and defense agencies are keen for the polygraph—and the Reagan Administration is enraptured—research on the polygraph provides no basis for confidence in the claims of its devotees. The OTA report, requested by Rep. Jack Brooks (D-Tex.), Chairman of the Government Operations Subcommittee on Legislation and National Security, is especially noteworthy for reports of simple means for fooling the polygraph, among them curling the toes, popping tranquilizers and beta-blockers, and simply boning up on how the machine functions.

(132 pages, \$5.50, GPO Stock No. 052-003-00934-0, Superintendent of Documents, USGPO, Washington, DC 20402).

Materials Research and Development, report to the

ENERGY (Continued from page 6)

cupied with building nuclear weapons and salvaging nuclear power: Transfer its money and programs to an agency that works well with academe, the National Science Foundation.

Department of Energy by the Materials R&D Panel of the Energy Research Advisory Board, includes recommendation for DOE to "seed materials research programs at selected universities..."

(25 pages, free, Energy Research Advisory Board, US Department of Energy, 1000 Independence Ave. SW, Washington, DC 20585; tel. 202/252-8933.)

International Research Centers Directory, 2d edition, excluding US, lists some 3000 research centers around the world; fields covered include physical, life, and social sciences, government R&D administrative offices, data collection centers, etc.; provides name, address, telephone number, name of director, parent agency, size of staff, and so forth.

(752 pages, \$250, published by Gale Research Co., Book Tower, Detroit, Michigan 48226; tel. 313/961-2242.)

Personnel Needs and Training for Biomedical and Behavioral Research, seventh report, since 1975, prepared in response to Congressional request by the Institute of Medicine, the health-policy research arm of the National Academy of Sciences, reports "some indications that the postdoctoral pool of bioscientists may soon level off...the number of bioscience graduate students has begun to drop...There has been very little growth in biomedical PhD production since 1972." Notes that expenditures for training as a percentage of expenditures for research have fallen from 17 percent in 1971 to 7 percent in 1981, and states that "what is needed now is not a huge infusion of funds for training but rather a reasonably stable program geared to preserving the long-term quality of research."

(217 pages, free, Academy Press, 2101 Constitution Ave. Nw., Washington, DC 20418.)

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Lab Instrument Study Gets US Backing

A 16-month study of ways to ease the instrument crunch in university laboratories has just got underway with support from five federal agencies and a private foundation. The aim isn't to join the already sizeable lobbying drive for more federal funds for instruments; rather, it's to identify managerial and financial-planning techniques for squeezing more instrument usage out of available money.

Among the subjects to be examined are debt-financing of equipment; opportunities for improvements in procurement, management, and maintenance; incentives for donations of equipment, and regulatory problems.

The study has been organized by Washington's big three of university representation, the Association of American Universities, the National Association of State Universities and Land Grant Colleges, and the Council on Government Relations.

Support is being provided by the National Science Foundation, NASA, and the departments of Agriculture, Defense, and Energy—which, together, are in for \$280,000. Another \$10,000 is coming from the Research Corporation, a university-oriented, New York-based foundation.

According to an announcement from the Association of American Universities, higher-education associations and science and engineering societies will be invited to

NCAM Materials Lab "Dead"

The privately spoken word around the Department of Energy is that there's no future for White House Science Adviser George A. Keyworth's proposed National Center for Advanced Materials Research (NCAM), which he wanted to build at the Lawrence Berkeley Laboratory, in California.

Congress put the \$250-million project on hold after materials mandarins at other labs protested that they hadn't been consulted. DoE, which was to finance NCAM, then hastily attempted a retro-review to legitimize the venture, but the panelists failed to produce lavish praise for Keyworth's creation. A senior DoE research official told SGR last week that "NCAM is dead."

join the study, and universities will be invited to send representatives to regional workshops.

Richard A. Zdanis, Vice Provost of Johns Hopkins, is chairman of an eight-member steering committee for the study.

The Project Manager is Patricia S. Warren. Address: Association of American Universities, One DuPont Circle, Suite 420, Washington, DC 20036; tel. 202/887-0630.

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9999

C 26

0	5	5	2	5
1	3	5	5	
2	2	3	5	
3	5	5	5	
4	5	5	5	
5	5	5	5	
6	3	5	5	

0	5	5	2	5
1	3	5	5	
2	2	3	5	
3	5	5	5	
4	5	5	5	
5	5	5	5	
6	3	5	5	